

Appendix D: SRTS/SR2S Handbook

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Safe Routes to School Handbook



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Prepared by Alta Planning + Design



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Introduction

What is Safe Routes to School?

Safe Routes to School is a program in Chula Vista with a simple goal: helping more children get to school safely by walking and bicycling. We envision active kids using safe streets, helped by engaged adults (teachers, parents, school administrators, and police officers), surrounded by responsible drivers.

Safe Routes to School programs use a variety of strategies to make it easy, fun, and safe for children to walk and bike to school. These strategies are often referred to as the “Four Es.”

- **Education:** programs designed to teach children about traffic safety, bicycle and pedestrian skills, and traffic decision-making.
- **Encouragement:** programs that make it fun for kids to walk and bike. These programs may be challenges, incentive programs, regular events (e.g. “Walk and Bike Wednesdays”) or classroom activities.
- **Engineering (Design):** physical projects that are built to improve walking and bicycling conditions.
- **Enforcement:** law enforcement strategies to improve driver behavior near schools.

What is the Purpose of this Handbook?

The purpose of this handbook is to provide community members with an introduction to Safe Routes to School in Chula Vista and to encourage people to support and get involved in Safe Routes to School efforts by introducing a variety of common Safe Routes to School strategies and activities.

This handbook is for parents, teachers, school administrators and concerned citizens who want to improve traffic safety, traffic flow and air quality around schools, and to help children be more physically active and alert when they arrive at school so that they are ready to learn.



Palomar Elementary School students walking home after school

History of the Safe Routes to School Movement

The first Safe Routes to School programs were initiated in Europe in the 1970s and 1980s in response to declining numbers of children walking and bicycling to school. The first programs in Europe inspired similar programs in Australia, Canada, and the United States. In the US, the earliest Safe Routes to School programs were implemented in New York City, Florida state, Marin County, California, and Arlington, Massachusetts.

Based on the success of programs in New York, Marin and Florida, Safe Routes to School became a nationwide effort in 2005, when Congress included a national Safe Routes to School (SRTS) program in the reauthorization of Federal highway legislation. The program distributed \$612 million in dedicated SRTS funds around the nation. As a result, every state has a SRTS coordinator and a grant program.

The US movement emerged from a staggering decline over time in the proportion of schoolchildren walking and bicycling to school. In 1969, over 40 percent of US schoolchildren walked or bicycled to school. Today, that number has dropped to 13 percent, and it continues to decline¹. As a result, children suffer from a variety of problems related to physical inactivity and childhood obesity. The trend toward driving children to school in lieu of walking, bicycling, or riding the bus has also contributed to traffic congestion. Twenty-five percent of morning rush-hour traffic is attributed to parents driving children to school, which leads to poorer traffic safety and air quality around schools.



Students in Seattle learn pedestrian safety lessons

Benefits of Walking and Bicycling to School

Active kids are healthy kids, and walking or bicycling to school is an easy way to make sure that children get daily physical activity.

Benefits to children include:

- Increased physical fitness and cardiovascular health
- Increased ability to focus on school²
- A sense of independence and confidence about their transportation and their neighborhood

Benefits to neighborhoods include:

- Improved air quality as fewer children are driven to school
- Decreased crashes and congestion as fewer children are driven to school³
- More community involvement as parents, teachers and neighbors get involved and put “eyes on the street”

Benefits to schools include:

¹ McDonald, N. (2007). Active Transportation to School: Trends Among U.S. Schoolchildren, 1969-2001. *American Journal of Preventative Medicine*. 32(6) 509-516.

² Tomporowski, P. (2008). Exercise and Children's Intelligence, Cognition, and Academic Achievement. *Educational Psychology Review*. 20.2: 111-131.

³ Jacobsen, P. (2003). Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling. *Injury Prevention*. 9.3: 205-209; Washington State Department of Transportation (2002), cited in Safe Routes to School, National Highway Transportation & Safety Administration.

- Fewer discipline problems because children arrive more alert and “ready to learn”⁴
- Fewer private cars arriving to drop off and pick up children
- Opportunities to integrate walking, bicycling, and other transportation topics into curriculum (e.g. “Walk & Bike Across America,” mapping lessons, graphs and charts of distance walked or biked)

Overview of Chula Vista’s Program

Beginning in 2005, the City has succeeded in acquiring Safe Routes to School funds to improve pedestrian safety surrounding certain Chula Vista elementary schools. In 2006, the City was awarded a State-Legislated Cycle 6 Safe Routes to School (SR2S) Program grant to construct pedestrian improvements east of Harborside Elementary School. The improvements included enhanced school crosswalks, missing sidewalk installation, curb extensions and an upgraded pedestrian trolley track crossing. In 2009, the City received a State-Legislated Cycle 8 Safe Routes to School (SR2S) Program grant to improve pedestrian conditions surrounding Lauderbach Elementary School. The planned improvements include traffic calming features, school zone signs, bulb-outs, pedestrian signals, striping, pavement and pedestrian ramp installation. The City will begin construction of the Lauderbach Elementary School project in 2010.



SR2S Funded Pedestrian Improvements near Harborside Elementary

In 2007, Chula Vista launched a two-pronged SRTS program to enable and encourage children in grades K-6, including children with disabilities, to walk and bike to school safely. The City of Chula Vista and Chula Vista Elementary School District (CVESD) partnered to submit complimentary SRTS grant proposals to the California Department of Transportation (Caltrans) for \$621,115 toward infrastructure improvements and \$499,025 toward non-infrastructure programs. The City of Chula Vista is responsible for implementing the infrastructure improvements within the first 18 months of the grant period. These improvements will focus on the Rice and Otay Elementary School vicinities. CVESD is coordinating the non-infrastructure activities such as walking school buses, International Walk to School Days, advertising campaigns, and parent and community outreach, also targeting Otay and Rice Elementary Schools. These two schools will serve as demonstration sites, with CVESD’s non-infrastructure project expanding to 15 additional schools by 2009. The project seeks to raise walking and biking rates by 15 percent in participating schools with reductions in obesity and traffic congestion surrounding the 17 schools.

⁴ Barros, R., et al. (2009). School Recess and Group Classroom Behavior. *Pediatrics*. 123.2: 431-436.

Components of the Two-Year Program

Chula Vista SRTS infrastructure improvements around Otay and Rice Elementary Schools include installing:

- Offset medians
- Bulb-outs
- Setback limit lines and other enhanced striping
- High visibility zebra crosswalk striping
- ADA-compliant pedestrian curb ramps
- Non-slip sidewalk grating
- Flashing yellow beacons
- CA MUTCD-compliant school zone warning signage

Chula Vista SRTS non-infrastructure program strategies include:

- Establish SRTS Taskforces
- Conduct parent and community outreach
- Implement an incentive program
- Establish parent safety patrols or crossing guard programs
- Use expert assistance
- Conduct an advertising campaign
- Consult City engineers and law enforcement
- Organize a steering committee
- Evaluate objectives to make program modifications



Bicycle safety education in Portland, Oregon includes guided rides

Example Safe Routes to School Activities

The following section presents education, encouragement, enforcement, engineering tools, evaluation techniques, and school policies that are or could be undertaken in Chula Vista as a part of a Safe Routes to School effort. Because each school differs based on characteristics such as terrain, the amount of nearby traffic and the presence of sidewalks or trails, a solution that works at one school may not be appropriate at another school within the city. For this reason, parents, schools, neighbors, and the City of Chula Vista should design programs that reflect the unique opportunities and challenges faced by each school's population.

EDUCATION

Safe Routes to School refers to a variety of multi-disciplinary programs aimed at increasing the number of students walking and bicycling to school. Education programs are an essential component of a Safe Routes to School program. Education programs generally include outreach to students, parents, guardians, and motorists. Students are taught bicycle, pedestrian and traffic safety skills. Parents and motorists receive information on driving safety near schools and transportation options.

Safety Education

Pedestrian and bicycle safety education ensures that each child understands basic traffic laws and safety rules. Pedestrian safety education teaches children basic traffic safety rules, sign identification, and decision-making tools. Pedestrian training is typically recommended for first- and second-graders, and teaches basic lessons such as “look left, right, and left again,” “walk with your approved walking buddy,” “stop, look, and listen,” and “lean and peek around obstacles before crossing the street.” Trained safety professionals can administer pedestrian safety in the classroom or gym class. Classroom teachers may use established pedestrian safety curriculum, such as the curriculum taught by the Bicycle Transportation Alliance (http://www.bta4bikes.org/at_work/pedsafetyeducation.php) to make sure children know how and where to walk and cross the street.

Bicycle safety training is normally appropriate beginning in or after the third grade and helps children understand that they have the same responsibilities as motorists to obey traffic laws. The League of American Bicyclists offers an extensive bicycle safety curriculum called Kids II. This seven-hour class is aimed at 5th and 6th grade students and teaches necessary bicycle riding skills and how to pick safe bicycling routes. The curriculum is designed to have a League Certified Instructor (LCI) teach the class. There are twenty LCIs within 20 miles of Chula Vista (<http://www.bikeleague.org/cogs/resources/findit/>). This program or a similar program can be used to teach children where and how to ride a bicycle. Safe Moves (<http://www.safemoves.org/>) is another local resource for pedestrian and bicycle safety training for children.

Bicycle Rodeos

Bicycle Rodeos are family-friendly events that incorporate a bicycle safety check, helmet fitting, instruction about the rules of the road and an obstacle course. Adult volunteers can administer rodeos, or they may be offered through the local Police or Fire Department. Bicycles rodeos can be incorporated into health fairs, back to school events and Walk and Bike to School days.

Classroom Lessons and Activities

A variety of existing lessons and classroom activities are available to help teach students about walking, bicycling, health and traffic



Traffic safety education, shown here in a Chicago classroom, can teach students important life-long skills

safety. These can include lessons given by law enforcement officers or other trained professionals, or as a lesson plan developed by teachers. Example topic lessons are: Safe Street Crossing; Helmet Safety; Rules of the Road for Bicycles; and Health and Environmental Benefits of Walking and Biking.

The lessons should be grade-appropriate and can be incorporated into the subjects of health, environment, social science, math and physics. Sample lesson plans are available at the sample program websites (see Appendix).

Bus Safety Campaign

Many schools use buses to transport students who are too far away to walk to school. School buses are large and restrict sight lines for drivers and pedestrians. It is difficult for drivers and students to see each other around school buses. Schools can implement a bus safety campaign that reminds students to walk and bike cautiously around buses and to wave and communicate to the bus driver.



Bus Safety Campaign in Chicago

School Zone Traffic Safety Campaign

A School Zone Traffic Safety Campaign creates awareness of students walking and bicycling to school. A safety campaign is an effective way to reach the general public and encourage drivers to slow down and look for students walking and biking to school.

A School Zone Traffic Safety Campaign uses signs and banners located near schools (for example, in windows of businesses, yards of people's homes and print publications) to remind drivers to slow down and be careful in school zones. This campaign can be kicked off at the start of each school year or in conjunction with special events, such as Walk and Bike to School Month, which takes place in October.

Banners and signs can be effective tools to remind motorists about traffic safety in school zones. Large banners can be hung over or along roadways near schools with readable letters cautioning traffic to slow down, stop at stop signs or watch for students in crosswalks with catch phrases such as: "Drive 25, Keep Kids Alive" or "Give Our Kids a Brake"

ENCOURAGEMENT

Encouragement programs help increase the number of students walking and biking to school by making walking and bicycling fun while increasing public awareness of the benefits of walking and biking to school. Encouragement activities often include a variety of special events and contests, outreach campaigns and presentations to school and community groups. Encouragement programs can be used to educate parents, school personnel, students and the community about the health and safety benefits of a successful Safe Routes to School program.

Friendly Walking/Biking Competitions (Incentive Programs)

Contests and incentive programs reward students by tracking the number of times they walk, bike, carpool or take transit to school. Contests can be individual competitions, classroom competitions, or interschool competitions. Local businesses may be willing to provide incentive prizes for these activities. Students and classrooms with the highest percentage of students walking, biking, or carpooling compete for prizes and recognition. Small incentives, such as shoelaces, stickers and bike helmets, can be provided to encourage participation. It can also be effective to allow different grades and schools (high school vs. grade school vs. middle school) to compete against each other in a mobility challenge.

Example of a Frequent Rider Miles sheet

Each of the examples of programs below can be modified for students who live too far away from school to walk or bike. Modification can include walking or biking at lunch time or gym class. Also, students can count the miles walked or biked with parents and guardians outside of the school day.

Examples of Walking and Biking Competitions include:

On-campus walking clubs (mileage clubs) - Children are issued tally cards to keep track of “points” for the each time they walk, bike, bus or carpool to or from school. When they earn a specified number of points they get a small prize and are entered in a raffle for a larger prize. At the end of the school year, there is a drawing for major prizes.

Pollution Punchcard - This year-round program is designed to encourage school children and their families to consider other options for getting to school, such as biking, walking, carpooling and transit. Every time a student walks, bikes, or carpools to school, a parent volunteer or school representative stamps the card. Then students receive a reward when the punch card is complete.

Walk and Bike Challenge Week/Month - This month-long encouragement event is generally held in conjunction with National Bike Month in May. Students are asked to record the number of times they walk and bike during the program. The results are tallied and competing school or classrooms compare results. Students who are unable to walk or bike to school can participate by either walking during a lunch or gym period or getting dropped off further away from the school and walking with their parents the last several blocks.



In Chicago, physical activities before school are part of the friendly competitions

Golden Sneaker Award - Each class keeps track of the number of times the students walk, bike, carpool or take the bus to school and compiles these figures monthly. The class that has the most

participation gets the Golden Sneaker Award (the award can be created by taking a sneaker, mounting it to a board like a trophy, and spray painting it gold).

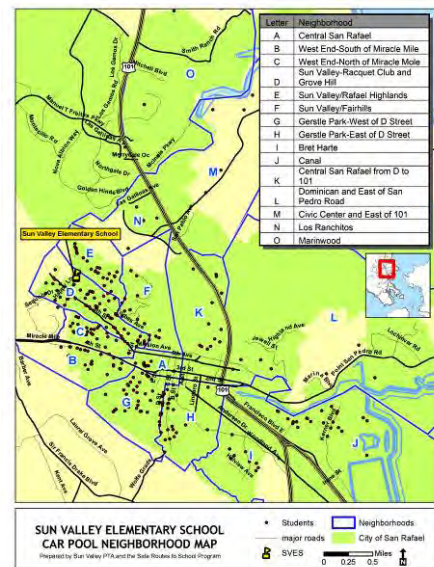
Walk Across America/California/Pacific Crest Trail/to Hollywood - This is a year-round program and is designed to encourage school children to track the number of miles they walk throughout the year. Students will be taught how to track their own mileage through learning about how many steps or blocks are in a mile and will also learn about places in the United States on their way. Teacher or volunteer support is required.

Each of these programs can use incentives to increase participation and reward the students for their efforts. Examples of incentives include:

- Shoelaces
- Dog tags
- Pedometers
- Reflective zipper pulls
- Bicycle helmets
- Raffle tickets for a bicycle from a local bike shop
- Early dismissal
- Extra recess time
- Pizza parties



Bicycles around a school campus in Los Angeles



A schoolpool map from Marin County shows area neighborhoods and student household locations

Back-to-School Blitz

Families set transportation habits during the first few weeks of the school year. Many families are not unaware of the many transportation options available to them, and as a result, most families will establish the habit of driving to school. A “Back to School Blitz” can be used at the beginning of the school year to promote bus, carpool, walking, and bicycling as school transportation options.

The “Back to School Blitz” includes many of the other programs in this Toolkit, including Suggested Route Maps, articles in school newsletters and enforcement activity. Additional elements include:

A packet given to each family containing information about school transportation options, including:

- A cover letter signed by the principal encouraging parents to create transportation habits with students that promote physical activity, reduce congestion, increase school safety and improve air quality.
- School transportation maps or suggested routes to school maps that include bicycling and walking routes, transit and school bus stops, drop-off and parking areas and bike parking locations.
- Transit schedules.
- Pledge forms about reducing the number of times that families drive to school; entries go in to a raffle for a prize donated by local businesses.

In addition to the packet, the following strategies can be included:

- A table at back-to-school night with materials and trained volunteers who can answer questions about transportation issues.
- A post “school pool map” showing all student households as dots. Parents check the corresponding school directory listing to see families located in their neighborhood who are interested in walking, biking and carpooling to school together. Only families who opt into the directory are listed.
- An article in the first school newsletter about transportation options and resources.
- Enforcement activities, such as school zone speed and crosswalk enforcement.
- Strict enforcement of parking policies during the first month of school (and throughout the year if possible).

Stop and Walk

This year-round campaign is designed to encourage parents to stop several blocks from school and walk the rest of the way to school. Not all students are able to walk or bike to school. They may live too far away from school to walk or their route to school may include hazardous traffic situations, such as a major arterial road. This type of campaign is used to allow students who are unable to walk or bike to school a chance to participate in school walking programs. It also helps reduce traffic congestion at the school.

The program can be included as a part of other encouragement activities, such as the Golden Sneaker Award, Walk Across California and the Mileage Clubs. An additional benefit to implementing a “Stop and Walk” program is reduced traffic volume directly surrounding a school. Reducing the number of motor vehicles in the school environment increases traffic safety and encourages walking and biking to school.



Students participate in a walking school bus

Walking School Buses

Parents and guardians often cite distrust of strangers and the dangers of traffic as reasons why they do not allow their students to walk to school. Walking School Buses are a way to ensure that children have adult supervision as they walk to school. Walking School Buses are formed when a group of children walk together to school and are accompanied by one or two adults (usually parents or guardians of the children on the “bus”). As the walking school bus continues on the route to school they pick up students at designated meeting locations.

Walking school buses can be informal arrangements between neighbors with children attending the same school or official school-wide endeavours with trained volunteers and structured meeting points with a pick-up timetable.

Bike Trains

A bicycle train is very similar to a walking school bus; groups of students, accompanied by adults, bicycle together on a pre-planned route to school. Routes can originate from a particular neighborhood or, in order to include children who live too far to bicycle, begin from a park, parking lot or other meeting place. They may operate daily, weekly or monthly. Bike trains help address parents’ concerns about traffic and personal safety while providing a chance for parents and children to socialize and be active.



Students in Durham, North Carolina participate in a bike train

Bike trains are best suited for older students that have undergone bicycle safety training. Also, helmets and parent waivers should be required before participating in a bike train.

Engineering Tools

The environment near the school is often a deciding factor when a parent or guardian decides whether or not to let their child walk or bicycle to school. There are many design improvements that help improve pedestrian and bicyclist safety and comfort near schools. The design improvements help slow cars, increase the visibility of students walking and biking and make it easier for students to cross the street. While some engineering efforts can be costly, many (such as posting signs and striping crosswalks or bike lanes) are relatively inexpensive. **All engineering measures must comply with the City of Chula Vista Street Design Manual and Municipal Code. Final design of any facility should be conducted by a licensed engineer using sound**



Example of a Single Lane Roundabout

engineering judgment and applicable local, state and federal standards and guidelines.

Traffic Calming

Traffic calming measures are intended to enhance pedestrian safety and encourage safe driving by slowing vehicles and reducing cut-through traffic on local neighborhood streets.

Types of traffic calming include:

Medians and Pedestrian Refuge Islands

Medians and pedestrian refuge islands are located at an intersection or in the middle of a block. Medians are curbed areas in the center of the roadway that reduce the roadway width and reduce the speed of traffic. Pedestrian refuge islands are medians with a cut-out (“refuge”) for pedestrians. Pedestrian refuge islands are often used with a marked crosswalk and are a minimum of four feet wide. They improve the safety of the pedestrian by creating a curb-protected location in the middle of the street. This allows the student to cross one lane of traffic at a time. These are best used on higher volume streets with high visibility crosswalks and signs.



Example of a Pedestrian Refuge Island

Speed Tables and Speed Cushions

Speed tables and cushions slow vehicles by forcing them to go over a raised surface (they are also known as “vertical deflection”). Speed tables are longer and wider than jarring speed bumps found in locations like parking lots. They are generally used on lower volume streets and may not be permitted or advised on larger or higher-volume streets.

Chicanes

Chicanes are two curb extensions or roadside islands that create a serpentine path for autos. Street traffic must slow down in order to effectively maneuver around the in-street barriers. Chicanes are mainly used on local streets near a school site.

Traffic circles

Traffic circles are in-street speed reduction devices found at residential intersections. They slow traffic because straight-through vehicle traffic must slow down to go around them, while turning vehicles must slow to make a sharper turn. Traffic circles can be used to visually enhance the street using plants or public art.



Example of a Chicane

Single Lane Roundabouts

Roundabouts can be used at intersections instead of using a traffic signal. They reduce the speed of traffic while maintaining traffic flow through an intersection. They can be used on low and high traffic volume roads. Pedestrian safety is improved due to decreased auto speed.

Pinch Points

Pinch points are very similar to chicanes. Chicanes are offset curb extensions, while pinch points are paired curb extensions or roadside islands used to create a single auto lane. Pinch points slow traffic by reducing the width of the street. Pinch points are used on neighborhood streets.



Example of a reduced corner/turning radius

Reduced Corner/Turning Radius

Reducing the turning radius for right-hand turns means creating a tighter turning angle for the motorist. This reduces the speed at which a motorist can make a right turn. It also improves the visibility of the pedestrian to the motorists and increases the sight distance of the pedestrian.

Safety Improvements

Pedestrian and bicycle facilities, signage, and striping are designed to enhance safety by providing designated space for pedestrians and bicycle travel and measures that alert roadway users to the presence of pedestrians and bicyclists. Some types of pedestrian and bicycle safety improvements include:

School Area Signage

School Zone signs notify motorists that they are entering an environment where there are vulnerable road users, children. The City is required to follow guidelines defined in the California Manual on Uniform Traffic Control Devices when installing signs. Key signs include the School Warning, School Crosswalk Warning, School Speed Limit and School Advance Warning. The preferred option for increasing the visibility of school area signage is through the use of fluorescent yellow-green signs.

Sidewalks

Sidewalks create a designated space for pedestrians, as well as children bicyclists. A complete sidewalk network is an important component of the transportation system for students. An incomplete sidewalk network or sidewalks in disrepair create a hazard for students walking and biking and may force students to walk in the roadway.

Trails and Paseos

Trails, pathways and paseos are often viewed as recreational facilities, but they can also serve an important function as a walking and bicycling corridor to school. Multi-use pathways and paseos are

designed to serve both bicyclists and pedestrians, and provide additional width over a standard sidewalk. Pathways may be constructed adjacent to roads, through parks or open space areas, along creeks, or along linear corridors, such as abandoned railroad lines. Regardless of the type, pathways constructed next to the road should have some type of buffer to separate the path area from the adjacent travel lane.

Curb Extensions/Bulbouts

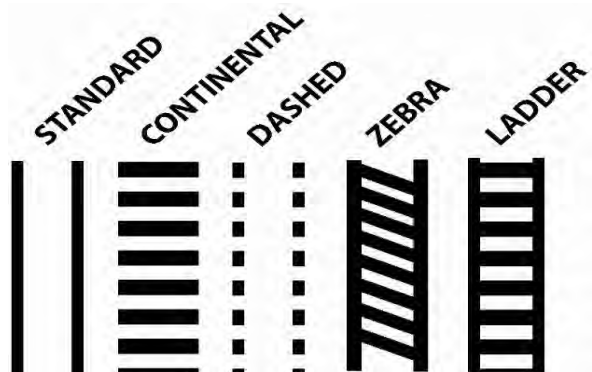
Curb extensions (sometimes called curb bulbs or bulb-outs) have many benefits for pedestrians. They shorten the street crossing distance, provide additional space at corners, allow pedestrians to see and be seen before entering the crosswalk.

High-Visibility Crosswalk Striping

High-visibility striping makes crosswalks more noticeable to motorists. Crosswalks located on roads within a certain distance of a school may be painted yellow. Several different crosswalk striping patterns can be used – the standard types of crosswalk striping patterns are shown in the diagram on this page. The standard crosswalk striping pattern consists of two parallel lines, called the “transverse” pattern. A number of “high-visibility” patterns are also in use, such as the ladder, zebra and continental patterns, which add bars for increased visibility.

High-visibility markings should be considered for all high-volume crossings near schools, and where the conditions warrant an increased visibility marking (e.g. a mid-block location).

The City of Chula Vista has been striping yellow high-visibility zebra-style crosswalks near schools. Standardizing crosswalk markings helps both motorists and pedestrians recognize designated crossings.



Types of crosswalk striping

Pedestrian Countdown Signals

Pedestrian countdown signals give pedestrians information about how much time left they have to cross the street. Young pedestrians are still learning the skills needed to be a safe pedestrian. Without proper information, a flashing hand can confuse some child pedestrians and lead to running in the crosswalk in order to complete the crossing before the signal changes. Countdown signals help children make good decisions about whether or not to enter the crosswalk by telling them how much time they have remaining to cross the street.



Example of a countdown signal head

Leading Pedestrian Interval

A Leading Pedestrian Interval (LPI) is an option that can be added to a traffic signal. An LPI gives pedestrians a walk signal before the motorists get a green light, which makes pedestrians more visible to motorists and therefore makes motorists more likely to yield to them.

Pedestrian-Only Signals

One type of pedestrian-only signal is called a HAWK (High-intensity Activated crosswalk). It can be used at mid-block crossings with high pedestrian volumes or at intersections that do not already have a traffic signal. Pedestrians use a push button to activate the warning signal and motorists receive a flashing red light and then a solid red light. When the motorists have a solid red light, pedestrians then see a white “walk” light, letting them know they are allowed to cross the street. After pedestrians have finished crossing the street, motorists then receive a blinking red light that lets them know that they may proceed when safe. The HAWK signal has been implemented in a number of cities. It will be included in upcoming federal guidelines for pedestrian traffic signals, but is still considered an experimental treatment in California.



Advance Stop Bars

Advance Stop and Yield Lines

In-Street Yield to Pedestrian signs are flexible plastic signs installed in the median to enhance a crosswalk at crossing locations that do not have a signal. These signs usually say ‘State Law: Yield to Pedestrians’. At school crosswalks, these signs are sometimes installed on a portable base and brought out in the morning and back in at the end of each day by school staff, which may reduce the chance that the sign will become invisible to motorists by being left out all of the time. For permanently-installed signs, maintenance can be an issue as the signs may be run over by vehicles and need to be replaced occasionally. Installing the signs in a raised median can help extend their lifetime.



Bike Lanes

Bicycle Lanes

Bicycle lanes are a striped portion of the road that designates an area specifically for bicycle travel. Bicycle lanes increase the visibility of bicyclists to motorists and reduce conflict by separating motor vehicular and bicycle travel. Bicycle lanes are better suited for older and more experienced children who have learned the skills needed for bicycle handling, avoiding road hazards and following the rules of the road. Bike lanes can be

striped on any street that meets the width requirements and has the characteristics of a good bicycle route.

Secure Bicycle Parking

Providing a secure and convenient location for bicycle parking is one way to help encourage more children to bicycle to school. Good bike parking is located conveniently (near the school entrance, for example), and protects bicycles from vandalism/theft, damage and weather.

Human-Scale Lighting

Safe sidewalks are essential components of good pedestrian environments. Well-lit sidewalks and walkways convey a feeling of comfort and safety, particularly at night. Lighting should illuminate the sidewalk and roadway crossings to increase pedestrian visibility. Lighting is also an important element for multi-use pathways, at underpasses and at other isolated locations. Lights should be low enough to the street to scaled for pedestrians increase pedestrian visibility to road users and light their walking path.



Crossing over an interstate in Davis, California

Grade-Separated Crossings

Occasionally, it may be necessary to raise or lower a pedestrian crossing above or below the existing street level, using a pedestrian bridge or underpass. Due to their high cost, grade-separated crossings should only be considered when there are no safe and convenient alternative routes, such as at a freeway, major highway, rail line or waterway. Even in these cases, pedestrian-only grade-separated crossings should be built only after careful consideration. People may not use a bridge if it requires people to travel very far out of their way. Grade-separated crossings may also feel unsafe because pedestrians are isolated from others. For this reason, pedestrian facilities should be incorporated into existing and new vehicle crossings where feasible.

Enforcement Tools

Enforcement tools are aimed at ensuring compliance with traffic and parking laws in school zones. Enforcement activities help to reduce common poor driving behavior, such as speeding, failing to yield to pedestrians, turning illegally, parking illegally and other violations. Enforcement strategies, in conjunction with education efforts, are intended to clearly demonstrate what is expected of drivers of motor vehicles and to hold them accountable for the consequences



*Student crossing assistants in Chula Vista help other students navigate roads near schools
Students help with a Share the Road campaign in Portland, Oregon*

of their actions. While most enforcement is the responsibility of police and other law enforcement, there are numerous complementary strategies that can be undertaken by school officials, crossing guards, parents and volunteers.

School Safety Patrols and Crossing Guards

School safety patrols are trained student volunteers responsible for enforcing drop-off and pick-up procedures. Student safety patrols may also assist with street crossing; they do not stop vehicular traffic, but rather look for openings and then direct students to cross. According to the National Safe Routes Clearinghouse, “student safety patrols... [increase] safety for students and traffic flow efficiency for parents. Having a student safety patrol program at a school requires approval by the school and a committed teacher or parent volunteer to coordinate the student trainings and patrols.”

Crossing guards are trained adults, paid or volunteer, who are legally empowered to stop traffic to assist students with crossing the street.

Crosswalk Sting

In a crosswalk sting operation, the local police department targets motorists who fail to yield to pedestrians in school crosswalks. A plain-clothes “decoy” police officer ventures into a crosswalk or crossing guard-monitored location, and motorists who do not yield are given a citation by a second officer stationed nearby. The police department or school district may alert the media to crosswalk stings to increase public awareness of the issue of crosswalk safety, and news cameras may accompany the police officers to report on the sting.

The City of Chula Vista Police Department has had success with DUI-focused sting operations. This experience could be applied to crosswalk stings.

School Parking Lot “Citations”

If on-site parking problems exist at a school, such as parents leaving vehicles unattended in loading zones, school staff may issue parking lot “citations” to educate parents about appropriate parking locations. These “citations” are actually warnings designed to look like actual police tickets, intended to educate parents about how parking in improper zones can create safety hazards or disrupt traffic flow for other parents during the pick-up/drop-off period.

Other informal enforcement programs include sending drop-off and pick-up procedures home with students at the beginning of the year and after returning from school vacations.

Neighborhood Speed Watch

In areas where speeding problems have been identified by residents, a Neighborhood Speed Watch can be used to warn motorists that they are exceeding the speed limit. A radar unit is loaned out to a designated neighborhood representative to record speed information about vehicles. The person operating the radar unit must record information, such as make, model and license number of offending vehicles. This information is sent to the local law enforcement agency, which then sends a letter to the registered vehicle owner, informing them that the vehicle was seen on a specific street exceeding the legal speed limit. Letters are typically sent out to those driving at least 5 mph over the

speed limit. Although not a formal citation, the letter explains that local residents are concerned about safety for their families and encourages the motorist to drive within the speed limit.

Yard signs can also be incorporated into the speed watch program. Participating neighbors post signs stating that children live in the neighborhood and it is necessary to slow down for their safety.

Radar Trailer

Speed Radar Trailers can be used to reduce speeds and enforce speed limit violations in known speeding problem areas. In areas with speeding problems, police set up an unmanned trailer that displays the speed of approaching motorists along with a speed limit sign.



Example of a radar trailer in Marin County

Speed radar trailers can be used as both an educational and enforcement tool. By itself, the unmanned trailer serves as effective education to motorists about their current speed compared to the speed limit. As an alternative enforcement measure, the police department may choose to station an officer near the trailer to issue citations to motorists exceeding the speed limit. Because they can be easily moved, radar trailers are often deployed on streets where local residents have complained about speeding problems. If frequently left in the same location without officer presence, motorists may learn that speeding in that location will not result in a citation and the strategy can lose its benefits. For that reason, radar trailers should be moved frequently.

The City of Chula Vista Police Department has a speed feedback trailer that it rotates to various problematic locations throughout Chula Vista. The trailers are not used primarily to enforce speeds, but rather, to alert motorists of their speeds.

Speed Feedback Sign

A permanent speed radar sign can be used to display approaching vehicle speeds and speed limits on roadways approaching the school site. The unit is a fixed speed limit sign with built-in radar display unit that operates similar to a radar trailer. In order to maximize effectiveness for school settings, the radar display unit should be set to only activate during school commute hours.

Roadways approaching the school site are the most appropriate location to display speeds, instead of streets along the school frontage that will likely have lower speeds due to pick-up/drop-off traffic.



Example of a Speed feedback sign in Marin County

E-Service Online Request System

The City of Chula Vista Public Works Department has an online request system in place so citizens can report problems with public facilities, including sidewalks, street lights and street signs. The web address of the online Service Request system is:

<https://www.chulavistaca.gov/Apps/GBA/Main.aspx>

The City could use this model to allow citizens to make online comments specifically about issues surrounding student safety when walking and biking to school.

Evaluation

Evaluation of the Safe Routes to School program is important to understanding the effectiveness of the program, identify improvements that are needed and ensure that the program can continue in the long-term. Evaluation can measure shifts in travel behavior, changes in attitudes toward biking and walking, awareness of the Safe Routes to School program, grant money received and projects completed.

School Site Audit

A school site audit, sometimes called a walking audit or walkabout, is an evaluation of the pedestrian and bicycling conditions around the school environment. Typically school site audits are conducted by the local school group or task force on foot by walking the routes that the students use to get to school. A site audit may also be conducted on bicycle in order to better evaluate bicycling conditions.

The goal of a site audit is to document conditions that may discourage walking and bicycling to school, and to identify solutions to improve those conditions. The audit should involve an assessment of the built environment around a school (for example, streets, sidewalks, pathways, crosswalks and intersections, bike routes, traffic controls), drop-off and pick-up operations (e.g. presence of designated loading areas), as well as behaviors of students, parents, and motorists that could contribute to unsafe conditions for bicyclists or pedestrians (e.g. speeding, jaywalking, failure to yield to pedestrians).

Participants typically use a School Site Audit Checklist form that asks for detailed information related to: 1) Student Drop-Off and Pick-Up Areas; 2) Bus Loading Zones; 3) Sidewalks and Bicycle Routes; 4) Intersections Near the School Property; 5) Sight Distance; and 6) Traffic Signs, Speed Controls and Pavement Markings. The local school task force can use the School Site Audit checklist as a basis for conducting their walkabout. Along with the checklist, a map of the school area is helpful for the site audit. Maps can be marked up with identified issues and suggested improvements.

WalkSanDiego has led walk audits throughout 2009 at 36 Chula Vista elementary schools. Walk audits could be conducted annually after SRTS activities have begun to assess the effectiveness of SRTS activities and infrastructure improvements.

Program Evaluation

Not every education, encouragement, and enforcement program is the correct fit for every school. It is important to evaluate programs in the context of the school environment prior to deciding what would be a good choice for your school. Once the programs have been implemented it is necessary to determine whether or not it was a good choice for your school and what about the program worked and what did not work quite as well. Below are some suggested steps for proceeding with the program evaluation process.

Program evaluation can be administered by following these steps:

1. Survey local traffic conditions and issues (much of this information can be found from the school site audit)
2. Determine the goals of the program
3. Identify methods to implement programs
4. Determine success benchmarks to evaluate the effectiveness of the program efforts
5. Interview program administrators (teachers, volunteers) and participants (students) to discuss what worked and what did not

Perform Annual Hand Tally and Parent Surveys

Since 2005, the federal SRTS program has set aside federal funding to help states, cities, towns and schools increase the number of students who are walking and biking to school. One requirement of receiving this money is that schools must perform annual hand tally and parent surveys so that the national program can track the effectiveness of the various programs across the country.

The National Center for Safe Routes to School has developed a recommended methodology, survey and count forms and reporting forms. A teacher administers the hand tally survey to the students in their classroom. The parent surveys are either mailed or sent home to parents or guardians. If you receive a parent survey, please fill it out and help your school district comply with current and future funding requirements.

Policies

The policies in this chapter focus on methods to ensure that vehicle traffic, busing and transit, and walking and bicycling to school is conducted in the safest and most efficient way possible. Many of the identified policies focus on vehicle pick-up and drop-off activities. Implementing policies can often be very low cost, although they may involve a greater outlay of staff resources and new procedures may take some time to gain acceptance.

Parent Drop-off/Pick-up Operations

Creation of a parent drop-off/pick-up “loop” can help maximize capacity and safety and minimize delay in drop-off and pick-up operations. The loop can be either a dedicated lane just for pick-up/drop-off, or a portion of the larger parking lot that has been marked with cones to serve as the pick-up/drop-off loop. Having supervisors present can help to ensure that loading/unloading moves forward smoothly, efficiently, and safely.



Student valets assist the drop-off process

Valet Drop-off

Valet drop-off is a technique to improve traffic flow within the drop-off and pick-up loop by assisting students into and out of vehicles. A “valet” is present at the pick-up/drop-off area to open car doors and assist students into and out of arriving vehicles, improving the traffic flow. The valet system eliminates the need for parents to get out of the vehicle to open the door for a child and remove bags or other items. The valet system is typically staffed by school staff or parent volunteers, who can quickly and efficiently move children into and out of vehicles and hold onto backpacks, umbrellas and other items. Some schools use older grade students as valets, for example 5th or 6th graders help younger students. However, student volunteers must get out of class early to prepare for pick-up.

A supplement to the valet system is a nameplate in the vehicle window that identifies what student needs to be picked up. This allows the valet to find students and bring them to the vehicle as it arrives.

Platooning Drop-off/Pick-up System

In a platooning system, all vehicles are unloaded/loaded simultaneously, then proceed to the exit. If a vehicle unloads or loads more efficiently than the vehicle in front of it, the rear vehicle must wait for the lead vehicle to finish the unloading/loading, then follow it out of the loop. This tool is best used to control the parent inclination to always drop-off and pick-up the student directly in front of the school. Often additional curb loading is available downstream of the school and is severely underutilized, creating excess congestion and delay prior to entering the lot. At least two monitors are needed to effectively operate the vehicle platoon – one at the loop entrance to direct the maximum number of vehicles into the lot for a single cycle, and a second to ensure that the lead vehicle proceeds to the front-most loading stall.

Staggered Bell Times

Staggered bell times can help to disperse the traffic peak at schools with a large student population or when two or more schools are in close proximity to one another. For a single school application, students’ start and end time should be grouped by grade levels. The start times of these groups should be at least 15 minutes apart. This allows the vehicles from the first group to leave the school or be completely out of the area by the time the second group arrives. With multiple schools,

staggering the bell times can be coordinated among two or more schools to ensure that significant levels of vehicles do not use competing transportation facilities simultaneously.

Dedicated Bus Zones

Establishing separate areas for vehicular and bus traffic can help improve traffic flows in the pick-up/drop-off area. Conflicts often occur when private vehicles and buses arrive at the same time and in the same location. Separating traffic often necessitates establishing an off-street bus zone, dedicated solely to buses. Private vehicles should not be allowed to load/unload in the bus zone. Bus zones need to be large enough to accommodate all the buses that might be parking there at one time. Sometimes it is possible to stagger the arrival times of the buses, thus requiring less space. The zones must be clearly marked and there should be adequate sidewalk space for students to wait for the bus.



The cones mark the dedicated bus zone

Appendix

Resources

- National Center for Safe Routes to School
- California DOT Safe Routes to School Program
- KidsWalk-to-School: A Guide to Promote Walking to School
- Pedestrian Safety Toolkit
- Safe Routes to Schools Toolkit
- Way to Go! Manual and Resource Kit
- National Strategies for Advancing Child Pedestrian Safety and National Strategies for Advancing Bicycle Safety
- Chula Vista's Safe Routes to School Website

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